heat increases, and while it is fasting it diminishes; but this diminution has a limit, whereas increased respiration is invariably attended by increased heat. Gaseous matter is exhaled in great abundance from the surface of the body of an insect, and contributes to regulate and equalize its temperature; but the quantity diminishes in proportion to the length of time during which it has been deprived of food. The author maintains that animal heat is not an effect of mere nervous influence, either general or ganglionic; an opinion which he derives from the following considerations: first, that in many insects in which considerable degrees of heat are evolved, and the respiration is energetic, the nervous system is small compared with that of others in which the respiration is less vigorous; and secondly, that if the evolution of animal heat were dependent on the existence of ganglia, the leech ought to generate more heat than the larva of the Lepidoptera, since it has a much greater number of ganglia. Hence he is disposed to draw the general conclusion that animal heat results directly from the changes which take place during respiration; and that the reason why so large a quantity passes off so rapidly from the body of an insect is because it does not become latent, since the circulating fluid, unlike what takes place in the higher animals, is neither completely venous nor completely arterial, but of a character intermediate between both.

Twenty-one tables are annexed exhibiting the records of the experiments referred to in the paper on the respiration, temperature, and circulation of insects.

"Observations on the Dry-rot of Ships, and an effectual method to prevent it pointed out." By James Mease, M.D. Communicated by Charles Konig, Esq., For. Sec. R.S.

The method recommended by the author for preventing the occurrence of the dry-rot in ships is to impregnate the timbers and planks with common salt, as is practised by the ship-builders in Philadelphia. For this purpose all the spaces between the timbers and the outside and inside planks are to be filled with Spanish or Portugal salt, driven down as the filling proceeds. The salt is found to penetrate thoroughly, and completely to saturate the wood, combining with its native sap and preventing fermentation and the consequent evolution of foul air. The principal inconvenience attending this method is the dampness of the ships; an evil for which the author suggests various remedies.

"Experimental Researches on the conducting powers of wires for Electricity; and on the heat developed in metallic and liquid conductors." By the Rev. William Ritchie, L.L.D., Professor of Natural Philosophy in the Royal Institution of Great Britain, and of Natural Philosophy and Astronomy in University College, London.

In a former communication, published in the Philosophical Transactions for 1833, the author endeavoured to show that the quantity of voltaic electricity conducted, or the force of the current, was a function of a greater number of variables than had been previously